National Institute of General Medical Sciences

Division of Cell Biology and Biophysics

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NIGMS Mission

NIGMS supports basic biomedical research on genes, proteins, and cells, as well as on fundamental processes like communication within and between cells, how our bodies use energy, and how we respond to medicines.

This research increases our understanding of life and lays the foundation for advances in disease diagnosis, treatment, and prevention.

Protein Structure Initiative (PSI)

Mission Statement

To make the three-dimensional atomic level structures of most proteins easily available from knowledge of their corresponding DNA sequences

http://www.nigms.nih.gov/Initiatives/PSI/

Protein Structure Initiative Goals

- Increase the number of sequence families with structural representatives
- Increase structural coverage of families with high biological impact
- Production and structural determination of challenging proteins
- Continue methodology and technology development
- Facilitate the use of structures by the broad scientific community

PSI Research Network

- Large-scale research centers
- Specialized research centers for technology development for challenging proteins (co-funded by NCRR)
- Homology modeling program
- Materials Repository

  http://www.hip.harvard.edu/PSIMR/index.htm
- Knowledge Base

  http://kb-psi-structuralgenomics.org/KB/

Proteomics Research

Basic biology and biochemistry based on genomic data combined with information on the complete complement of proteins present in the system under investigation

Proteomics Technology and Methodology Development

Development of scalable methods for the evaluation of the complete complement of proteins present in a system of biological interest, including protein identity, relative and absolute abundance, the identity of partners in protein-protein and other interactions and the localization of the proteins in space and time.

Technical approaches may include but are not limited to protein separations in conventional and miniature formats, protein mass spectrometry and protein interaction array methods.

NIGMS Funding

NIGMS supports basic biomedical research that increases understanding of life processes and lays the foundation for advances in disease diagnosis, treatment, and prevention. Most applications to NIGMS are not in response to a specific solicitation, but the Institute does fund research in several special areas.

For more information, see the complete list of all NIGMS research funding opportunities, programs, and grant mechanisms

http://search.nigms.nih.gov/research/programs.htm